

ELASTIC HEADWEAR

BACKGROUND OF THE INVENTION

(a) Field of the Invention

[0001] The present invention relates to elastic headwear, and more particularly to elastic headwear having a head-covering portion of textured yarns.

(b) Description of the Related Art

[0002] Conventional elastic headwear such as a cap, a hat, and a visor cap includes an elastic head-covering portion and a stretchable sweatband. The head-covering portion is a crown portion in a cap or a hat, and it may include a rim portion which encircles the head of a user in a visor cap. The crown portion or rim portion is generally made of stretch fabrics having elastic yarn such as spandex, polyurethane, latex, and so forth. The elastic yarn is hereinafter referred to as a stretch yarn whose material *per se* is elastic. The conventional elastic headwear may produce uncomfortable sensations of compression because the elastic yarns excessively press the head of a wearer. Since the elastic yarns are generally used as covered yarns, the fabric thereof becomes thick and rough as well as heavy. Further, the fabric of the elastic yarns may not have uniform colors since the core yarns of the elastic yarns have dyeing characteristics different from those of the covering yarns. The fabric of the elastic yarns may also contract or shrink unevenly under the special circumstances of weaving or knitting, resulting in size deviation of the headwear.

SUMMARY OF THE INVENTION

[0003] In view of the prior art described above, it is an object of the present invention to provide elastic headwear which is soft and light.

[0004] It is another object of the present invention to provide elastic headwear having a soft and comfortable fit, as well as enhanced productivity.

[0005] To achieve these and other objects, as embodied and broadly described herein, elastic headwear includes a head-covering portion having a plurality of pieces, and a sweatband being stretchable in at least a circumferential direction thereof. At least one piece is made of a woven or knitted fabric which is composed of textured yarns without elastic yarns.

[0006] Preferably, the sweatband may be composed of textured yarns. The sweatband is enclosed by a cover which is made of a woven or knitted fabric of textured yarns.

[0007] Both the foregoing general description and the following Detailed Description are exemplary and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The accompanying drawings provide a further understanding of the invention, and together with the Detailed Description, explain the principles of the invention. In the drawings:

[0009] Fig. 1 is a perspective view of a first embodiment according to the present invention;

[0010] Fig. 2 is an elevation view of a sweatband and a cover; and

[0011] Fig. 3 is a perspective view of a second embodiment according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Preferred embodiments of the present invention will hereinafter be described in detail with reference to the accompanying drawings.

[0013] Referring to Fig. 1, a cap 10 has a crown portion 100 for being worn on a head of a wearer, a visor portion 200 coupled to the crown portion 100 for blocking sunlight, and a stretchable sweatband 300 provided at the interior circumference of the crown portion 100. The present invention is not limited to the cap having the crown portion 1 as shown in Fig. 1 which merely shows an example as a kind of application, and it may be a hat, a visor cap as shown in Fig. 3, or other various kinds of headwear.

[0014] The crown portion 100 is composed of a plurality of pieces 110 such as a front piece, side pieces, and a rear piece, which are elastic at least in the circumferential direction.

[0015] Each piece of the crown portion 100 is made of a woven or knitted fabric which is composed of textured yarns without elastic yarns. It is possible that either a part or all pieces are made of the woven or knitted fabric of the textured yarns.

[0016] The woven fabric may be woven by textured yarns as either of weft or warp, or both. The textured yarns are those, which have been mechanically or chemically treated to impart kinks, curls, or crimps to the individual filaments to enhance latent contraction thereof.

Therefore, the textured yarns of polyester, nylon, or the like give stretchability to fabrics by weaving or knitting. Further, the woven or knitted fabrics of textured yarns have enhanced degrees of bulk to increase pore volume among yarns or filaments, so they give warmth to a user and have improved permeability of air, moisture, and sweat.

[0017] The woven or knitted fabric of textured yarns is stretchable, so the crown portion 100 stretches along the circumferential direction thereof without any elastic yarn. The woven or knitted fabric of textured yarns is also lightweight because of use of single yarns, in comparison to a fabric of elastic spandex yarn which is a covered yarn. Therefore, the cap 10 according to the present invention is about 6% lighter than a conventional cap in the case of the same thickness of yarns and the same fabric structure.

[0018] The woven fabric of textured yarns according to the present invention is provided in order to compare the characteristics such as the recovery rate and sense of oppression with those of the conventional spandex woven fabric. The comparison results are as follows:

[0019] (A) The woven fabric of textured yarns is woven with 150 denier polyester as warp yarns and with 150 denier textured polyester yarns as weft yarns. When the woven fabric is repeatedly stretched from 200mm to 240mm five times, the force required stretching ranges from 351 gF to 362 gF. After stretching, the recovery rates range between 97.0% and 98.9%.

[0020] (B) The conventional spandex woven fabric is prepared by weaving with polyester and cotton blended combed yarn (PCM) (16's) as warp yarns, and 70 denier polyurethane yarns covered by PCM (30's/2) as weft yarns. The fabric has a resultant ratio of polyester 63%, cotton 34% and polyurethane 3%. When the conventional woven fabric is repeatedly stretched from 200mm to 240 mm five times, the force required stretching ranges from 679 gF to 743 gF. After stretching, the recovery rates range between 91.4% and 93.7%.

[0021] As a result, the force required stretching in the woven fabric of textured yarns is 48%-51% less than that of the conventional spandex woven fabric when they are stretched the same length. The wearer of the conventional cap feels more sense of oppression than with the cap of the present invention. It also noted that the recovery rates of the woven fabric of textured yarns are better than the conventional spandex woven fabric. For soft fit of the cap, the sweatband 300 is also made of the knitted or woven fabric of the textured yarns to stretch along the circumferential direction. As shown in Fig. 2, the sweatband 300 may be covered by a cover 310 which is made of knitted or woven fabric of textured yarn. The cover 310 may have

elastic yarns such as polyurethane or rubber yarns in order to strengthen the elasticity of the sweatband.

[0022] When a wearer wears the cap 10 as shown in Fig. 1, to which the woven or knitted fabrics of textured yarns are applied at the crown portion 100 and sweatband 300, the cap stretches in the circumferential direction to enhance wearing comfort such as soft fit and lightweight wearing. It is also soft to the touch of the wearer due to the thin fabric, and it offers pleasantness due to rapid sweat evaporation and ventilation.

[0023] Further, the cap 10 has uniform color since it is possible to use a single kind of textured yarn which can be uniformly dyed. The cap according to the present invention has other advantages in that the sizes of the crown portion 100 are uniformly maintained to enhance productivity since the fabrics thereof has uniform stretchability of the single kind of textured yarns. The cap is difficult to deform by external influences such as fabric cuttings, sweat, washing, or heating. In contrast, conventional caps may have non-uniform sizes due to the contraction of elastic yarns, and may be deformed in the case that the elastic yarns become loose or cut by external influences.

[0024] Referring now to Fig. 3, another embodiment of the present invention will be described. A visor cap 20 has a rim portion 120 encircling the head, a visor portion 200 coupled with one side of the rim portion 120, and a sweatband 300 provided at the interior circumference of the rim portion 120.

[0025] The rim portion 120 can be provided as either a single piece or as several pieces, which are elastic at least in the circumferential direction. Each piece is made of a woven or knitted fabric which is composed of textured yarns without elastic yarns.

[0026] For a soft fit of the visor cap 20, the sweatband 300 is also made of the knitted or woven fabric of the textured yarns to stretch along the circumferential direction. The sweatband 300 may be also covered by a cover 310 which is made of knitted or woven fabric of textured yarns, as shown in Fig. 2. The cover 310 may have elastic yarns such as polyurethane or rubber yarns.

[0027] Similar to the cap 10 as shown in Fig. 1, the visor cap 20 gives the wearer enhanced wearing comfort such as soft fit and lightweight wearing, as well as being soft to the touch.

[0028] It will be apparent to those skilled in the art that various modifications and variations can be made to the present invention without departing from the spirit and scope of the invention.